be removed after treatment. The chemical is described as a cell toxicant which reacts with vital enzyme systems.

Aqualin is not toxic to fish after 24 hours. Animals will not drink recently treated water because of the obnoxious quality. There are dangers in application, an example being when treated water is allowed to flow into crop areas. For this reason Johnson feels legislation should limit use of this type chemical to qualified and licensed contractors or applicators.

**Only Two Contractors Licensed**

At present, Southern Mill Creek Products, which distributes aqualin in Florida, has licensed only two contractors to apply the herbicide, along with governmental agencies.

Part of the application system being used by Johnson includes a trailer to transport the airboat from one site to another, and a one-ton pickup truck, complete with four-wheel drive and snow tires.

Training is needed for job estimating, job planning, and in treating, Johnson says. Acronein is being applied at rates of five to seven ppm of water. Thus, a careful analysis is needed regarding inflow and outflow of water, turbulence, and other factors.

Johnson works closely with the Hyacinth Control Society, Inc., which serves as a training agency, through regular meetings. This Society serves commercial applicators, flood control personnel, U. S. Army Engineers, mosquito control agencies, county and state officials and others. Research on aquatic weed control materials and procedures receives high priority at the U. S. Department of Agriculture field laboratory at Plantation, Fla., staffed by Dr. Lyle W. Weldon, research agronomist; Robert Blackburn, botanist; and Dr. Carey Stewart, plant physiologist.

It's Freers

**Elm Arrester**

Freers ELM Arrester, a new product developed by Charles R. Freers, Muscatine, La., has been granted USDA registration on a regional basis. It is being marketed in Illinois, Iowa, Indiana, and Missouri.

According to Freers, extensive testing has shown that the new chemical compound will arrest the fungus of Dutch elm disease, after the tree has been partially affected. Freers says the product is applied by direct injection into the trunk of infected elms. Its function is to arrest the disease, and prevent spread of the fungus throughout the rest of the tree. In tests over a 9-year period, Freer reports that many trees have continued to live.

In a healthy elm, Freers reports, injection of the chemical will prevent DED from developing even though the elm bark beetle has carried the fungus to the tree. The product, he states, has been found to be most effective when booster injections are given about every two years. Elm trees which are heavily infected, however, cannot be saved. The chemical compound, being sold as Freers Elm Arrester, is not phytotoxic, nor does it adversely affect the beetle. Instead, according to Freers' report, the chemical is selective in destroying the fungus which is carried by the elm bark beetle.

Effective spraying and good tree sanitation, as a preventive program, have protected many elms. This has been possible where the beetle has been controlled. But, once the tree has been infected with the fungus, survival is seldom the case. No treatments are in use which will control the fungus. This control has been the goal of Freers in development of his treatment.

Another case in point which Freers believes his new product can solve is infection of trees by root graft. Many elms, he believes, contract the disease as a result of transmission via the root system when roots of infected elms and healthy trees form root grafts underground. In such cases, spraying for the beetle is ineffective. But, Freers states, injection of Freers Elm Arrester can save the tree.

Evidence of DED in a tree such as "flagging" is a signal to use the new product, according to Freers. He believes that it no longer need be a sign that the tree is doomed.

Freers has been an arborist for more than 30 years and has operated the Freers Tree Service of Muscatine. He spent almost a decade in development of the product and in experimental work and testing. The last three years, he states, have been most important. It was during this period—on a federal test plot and following the USDA requirements for evaluating the effectiveness of products claiming use in the...
The page contains text about the effects of Dutch Elm disease, the prediction of growth in Visko-Rhap usage, and the election of Grau as Executive Director of the Pennsylvania Turfgrass Council. It also includes information about the benefits of using Visko-Rhap herbicides and the career achievements of Dr. Fred V. Grau in the turfgrass industry. Additionally, it discusses the pros and cons of fertilizing trees and the science of mowing grass. The text is a mix of paragraphs and bullet points, providing a detailed overview of the topics.